

Name _____

1. The coldest place in the Milky Way galaxy is found in the Boomerang Nebula. The temperature is -457.6°F . Convert this to a Celsius temperature. (Use the formula $F = \frac{9}{5}C + 32$)

2. Write this expression in words:

$$17 \geq x^2 - (-1)$$

3. The world's fastest-moving glacier travels 115 feet a day. Another glacier is one mile away. It moves 80 feet a day toward the first glacier. In approximately how many days will they meet? ($1 \text{ mi} = 5,280 \text{ ft}$)

4. Evaluate:

$$X^{-3} = \boxed{} \blacktriangleright$$

5. Which are not linear equations?

a. $-\frac{3}{5}t = 226$

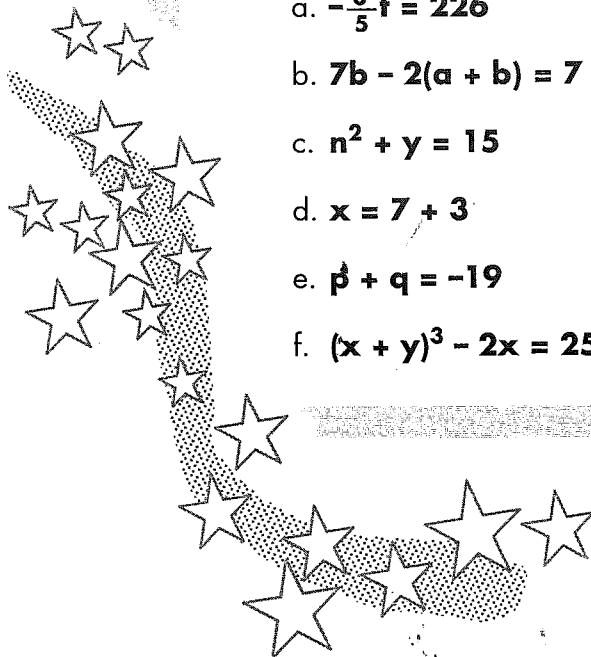
b. $7b - 2(a + b) = 7$

c. $n^2 + y = 15$

d. $x = 7 + 3$

e. $p + q = -19$

f. $(x + y)^3 - 2x = 25$



Name _____

-128°F coldest recorded temperature

136.4°F warmest recorded temperature

1. Write a subtraction sentence to find the difference between the two temperatures.

2. Fill in the blank with $<$, $>$, or $=$.

$$\sqrt[3]{512} \text{ ____ } \sqrt{49}$$

3. Write this expression in words: $\frac{c^2}{cd}$

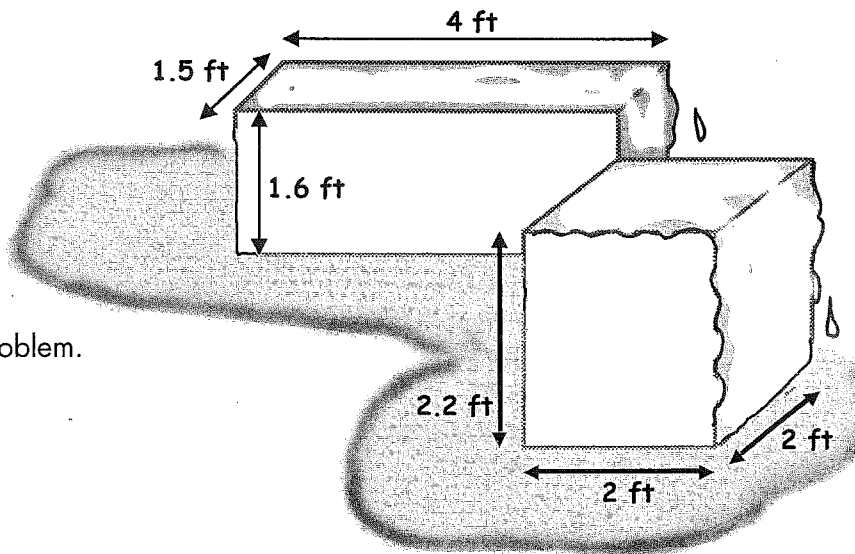
4. The solution is $x = -6$. Choose the problem.

☐ $3x - 9 + x = 2x$

☐ $x^2 + 7x = 6$

☐ $4x = 2x + 12$

5. Find the difference between the volumes of the two ice blocks.



1. In a wild hailstorm, the icy hailstones are accumulating at a rate of 1500 per second. There are now 50,000 on the ground. At the same rate, how much longer will it take to accumulate a total of 200,000?

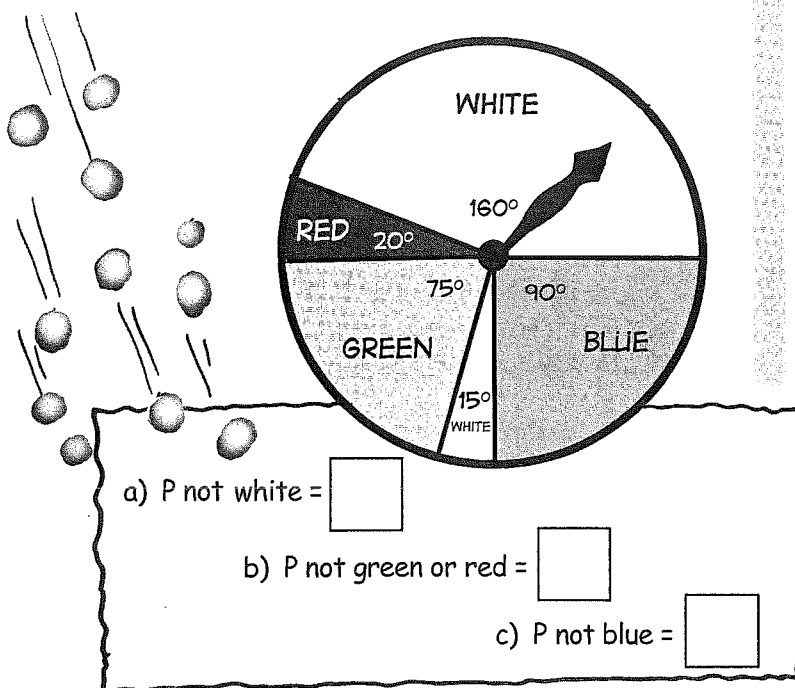
2. Simplify:

$$\frac{n^{10}}{n^3}$$

3. A sequence begins **4, 16, 28, 40, 52, 64, 76 . . .** Each term after that follows the same pattern shown here. Which term will be **280**?

4. Is the expression simplified correctly?
 $x - [6 + 2(8 - 1)] = x + 20$

5. Assume the spinner below will be spun once. Find the probabilities for the results described.



1. Circle the choices that accurately complete the sentence:

Thirty-seven is a(n) _____ number.

natural counting whole
 real negative
 integer irrational rational

2. Simplify: $\sqrt{(4)(9)}$

3. Graph: $\frac{1}{2}x \geq 3$



4. A patch of ice x feet long melts y feet from one end and 7 feet from the other end.

Write two different expressions to show the remaining length of the ice patch.

Ice Cube Toss Results

COMPETITOR	DISTANCE (FT)	EXPRESSIONS
JOE		x
MOE	TWICE JOE'S	
FLO	16 FT < JOE'S	
ZOE	$1\frac{1}{2}$ TIMES MOE'S	
total:	754 FT	

5. Fill in all the blanks on the table to show the appropriate expressions and the correct distance for Joe's toss.

1. The following ice sculptures won the top five places in an ice sculpture competition: a mermaid, an Eiffel Tower, an ice skate, a pair of swans, and a Volkswagen Beetle. How many different placing results (permutations) are possible (for first, second, third, fourth, fifth places)?

2. Evaluate: $\frac{-66}{2(-11)}$

3. Solve for y: $3y + 5 > 7$

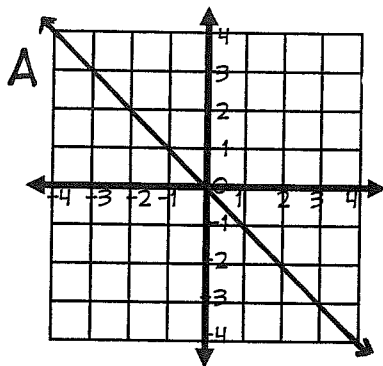
4. Is the solution correct?

$$\frac{\frac{1}{2}x}{x} = \frac{1}{2}$$

$$x = 20$$

5. Challenge Problem

Find the equation to match each graph. Write the equation above the graph.



$$x + y = 2$$

$$x^2 = y$$

$$y = 2x + 1$$

$$x + y = -1$$

$$x = -y$$

$$y = x + 2$$

$$x - 3 = y$$

$$y = -x + 3$$

